10b. Measurement
Average Time to Restore - Design
Definition:
Measures the average duration of customer trouble reports from the receipt of the customer trouble report to the time the trouble is cleared.
Exclusions
❑ Excludes CPE and IEC/CLEC caused troubles. ❑ Excludes Subsequent reports. ❑ Excludes Message Reports (circuit reports for which ILEC has no records). ❑ Excludes Message Covers. ❑ Excludes inside wire. ❑ Excludes tickets with a duration of 720/+ hours. ❑ Excludes ILEC employee generated reports. ❑ Excludes trouble reports for Retail services for New Connect Service occurring prior to due date. ❑ Excludes informational type of requests and other requests.
Business Rules:
❑ Business days/hours for maintenance troubles availability are 7days/week 24 hours/day. ❑ Needs to be reported by: • service group type • NXX Code Opening Troubles ❑ By dispatch and no dispatch. ❑ Excludes CPE and IEC/CLEC caused troubles. ❑ Excludes Subsequent reports. ❑ Excludes Message Reports (circuit reports for which ILEC has no records). ❑ Excludes Message Covers. ❑ Excludes inside wire. ❑ Excludes tickets with a duration of 720/+ hours. ❑ Excludes ILEC employee generated reports. ❑ Excludes trouble reports for Retail services for New Connect Service occurring prior to due date. ❑ Excludes informational type of requests and other requests.

Disaggregation:	
Comparison for Resale is analogous Retail product. Products included are: **ISDN** **CENTREX** **PBX** **DDS** **DS1** **DS3** **VGPL/DS0**	
Calculation:	**Report Structure:**
(Total duration of customer network trouble reports) / (Total customer network trouble reports)	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**
Benchmark:	
Parity	

10c. Measurement
Average Time to Restore - UNE
Definition:
Measures the average duration of customer trouble reports from the receipt of the customer trouble report to the time the trouble is cleared.
Exclusions
❑ Excludes CPE and IEC/CLEC caused troubles. ❑ Excludes Subsequent reports. ❑ Excludes Message Reports (circuit reports for which ILEC has no records). ❑ Excludes Message Covers. ❑ Excludes inside wire. ❑ Excludes tickets with a duration of 720/+ hours. ❑ Excludes ILEC employee generated reports. ❑ Excludes trouble reports for Retail services for New Connect Service occurring prior to due date. ❑ Excludes informational type of requests and other requests.
Business Rules:
❑ Business days/hours for maintenance troubles availability are 7days/week 24 hours/day. ❑ Needs to be reported by: • service group type (including PNP) • NXX Code Opening Troubles ❑ By dispatch and no dispatch. ❑ Excludes CPE and IEC/CLEC caused troubles. ❑ Excludes Subsequent reports. ❑ Excludes Message Reports (circuit reports for which ILEC has no records). ❑ Excludes Message Covers. ❑ Excludes inside wire. ❑ Excludes tickets with a duration of 720/+ hours. ❑ Excludes ILEC employee generated reports. ❑ Excludes trouble reports for Retail services for New Connect Service occurring prior to due date. ❑ Excludes informational type of requests and other requests.

Disaggregation:	
Parity for UNE measured for the following UNEs: **2/4w (8db) analog loop** **2/4w (5.5 db) assured analog loop** **2w digital loop (ISDN)** **2w digital loop (xDSL)** **4w digital loop (ISDN PRI)** **UNE Port – Basic Analog** **UNE Port – CENTREX** **UNE Port – PBX DID** **UNE Port – ISDN (BRI)** **UNE Port – DS1/ISDN (PRI)** **UNE Dedicated Transport** **UNE Platform** **Interconnection Trunks (no-dispatch)** **PNP - Port Out**	**Pacific Bell/Nevada Bell Retail** **POTS-Business (Fielded)** **POTS Business Assured (PBX)** **ISDN(BRI)** **ADSL** **DS1** **POTS-Business (no-dispatch)** **CENTREX** **PBX DID** **CENTREX** **DS1/ISDN(PRI)** **HICAP (DS1 & DS3)** **Analogous Retail Service** **ILEC Dedicated Trunks** **(Issue still to be resolved)**

Calculation:	Report Structure:
(Total duration of customer network trouble reports) / (Total customer network trouble reports)	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**

Benchmark:
Parity

11a. Measurement
Customer Trouble Report Rate - POTS
Definition:
Measures the total number of network customer trouble reports received within a calendar month per 100 access lines.
Exclusions
❑ **Excludes CPE and IEC/CLEC caused troubles.** ❑ **Excludes Subsequent reports.** ❑ **Excludes Message Reports (circuit reports for which ILEC has no records).** ❑ **Excludes Message Covers.** ❑ **Excludes inside wire.** ❑ **Excludes ILEC employee generated reports.**
Business Rules:
❑ **Needs to be reported by:** • **SGT, service group type** • **NXX code opening troubles** ❑ **Access line/circuit count taken from the previous month.** ❑ **Excludes CPE and IEC/CLEC caused troubles.** ❑ **Excludes Subsequent reports.** ❑ **Excludes Message Reports (circuit reports for which ILEC has no records).** ❑ **Excludes Message Covers.** ❑ **Excludes inside wire.** ❑ **Excludes ILEC employee generated reports.**
Disaggregation:
Comparison for Resale is analogous Retail product. Products included are: **POTS Residence** **POTSBusiness**

Calculation:	Report Structure:
(Total Number of Customer initial and repeat network trouble reports / Number of access lines/circuits/UNEs in service at the end of the prior reporting period) x 100	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**

Benchmark:
Parity

11b. Measurement
Customer Trouble Report Rate - Design
Definition:
Measures the total number of network customer trouble reports received within a calendar month per 100 circuits.
Exclusions
❑ **Excludes CPE and IEC/CLEC caused troubles.** ❑ **Excludes Subsequent reports.** ❑ **Excludes Message Reports (circuit reports for which ILEC has no records).** ❑ **Excludes Message Covers.** ❑ **Excludes inside wire.** ❑ **Excludes ILEC employee generated reports.**
Business Rules:
❑ **Needs to be reported by:** • **SGT, service group type** • **NXX code opening troubles** ❑ **Access line/circuit count taken from the previous month.** ❑ **Excludes CPE and IEC/CLEC caused troubles.** ❑ **Excludes Subsequent reports.** ❑ **Excludes Message Reports (circuit reports for which ILEC has no records).** ❑ **Excludes Message Covers.** ❑ **Excludes inside wire.** ❑ **Excludes ILEC employee generated reports.** ❑ **Interconnection trunks are non-dispatch e.g. dispatch-in.**
Disaggregation:
Comparison for Resale is analogous Retail product. Products included are: **ISDN** **CENTREX** **PBX** **DDS** **DS1** **DS3** **VGPL/DS0**
Calculation: | **Report Structure:**

(Total Number of Customer initial and repeat network trouble reports / Number of access lines/circuits/UNEs in service at the end of the prior reporting period) x 100	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**
Benchmark:	
Parity	

11c. Measurement
Customer Trouble Report Rate -UNE
Definition:
Measures the total number of network customer trouble reports received within a calendar month per 100 UNEs.
Exclusions
❑ **Excludes CPE and IEC/CLEC caused troubles.** ❑ **Excludes Subsequent reports.** ❑ **Excludes Message Reports (circuit reports for which ILEC has no records).** ❑ **Excludes Message Covers.** ❑ **Excludes inside wire.** ❑ **Excludes ILEC employee generated reports.**
Business Rules:
❑ **Needs to be reported by:** • **SGT, service group type (including PNP)** • **NXX code opening troubles** ❑ **Access line/circuit count taken from the previous month.** ❑ **Excludes CPE and IEC/CLEC caused troubles.** ❑ **Excludes Subsequent reports.** ❑ **Excludes Message Reports (circuit reports for which ILEC has no records).** ❑ **Excludes Message Covers.** ❑ **Excludes inside wire.** ❑ **Excludes ILEC employee generated reports** ❑ **Interconnection trunks are non-dispatch e.g. dispatch-in.**

Disaggregation:	
Parity for UNE measured for the following UNEs:	**Pacific Bell/Nevada Bell Retail**
2/4w (8db) analog loop	**POTS - Business (Dispatch)**
2/4w (5.5 db) assured analog loop	**POTS Business Assured (PBX)**
2w digital loop (ISDN)	**ISDN(BRI)**
2w digital loop (xDSL)	**ADSL**
4w digital loop (ISDN PRI)	**DS1**
UNE Port – Basic Analog	**POTS - Business (Dispatch)**
UNE Port – CENTREX	**CENTREX**
UNE Port – PBX DID	**PBX DID**
UNE Port – ISDN (BRI)	**CENTREX**
UNE Port – DS1/ISDN (PRI)	**DS1/ISDN(PRI)**
UNE Dedicated Transport	**HICAP (DS1 & DS3)**
UNE Platform	**Analogous Retail Service**
Interconnection Trunks (no-dispatch)	**ILEC Dedicated Trunks**
PNP - Port Out	**(Issue still to be resolved)**

Calculation:	Report Structure:
(Total Number of Customer initial and repeat network trouble reports / Number of access lines/circuits/UNEs in service at the end of the prior reporting period) x 100	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**

Benchmark:
Parity

Interconnection

12. Measurement	
Average Trunk Restoration Interval for Service Affecting Trunk Groups – (New)	
Definition:	
The average time to restore service affecting trunk groups.	
Exclusions	
• Items beyond Pacific Bell/Nevada Bell Control • CLEC Switch and Facility failures • Cable cuts/Fiber cuts	
Business Rules:	
Service affecting is defined as 20% of a trunk group out-of-service that causes trunk group blockage. The clock starts on receipt of a trouble ticket from the CLEC that identifies a service affecting condition. The clock stops after completion of work by Pacific Bell/Nevada Bell.	
Disaggregation:	
• Tandem trunk groups • Non-Tandem trunk groups • By Market Region	
Calculation:	**Report Structure:**
Total trunk group outage time / total trunk group trouble reports	Reported for CLEC, all CLECs and Pacific Bell/Nevada Bell.
Benchmark:	
Tandem trunk groups – 1 hour / Non-Tandem – 2 hours.	

Coordinated Conversions

13. Measurement
Coordinated Customer Conversion as a Percentage on Time
Definition:
Measures the percentage of coordinated orders (TBCC) completed on time for all orders where CLEC has requested coordination (including PNP).
Exclusions
❑ **Excludes CLEC caused misses.** • **If the original due date on an order is missed due to customer reasons, the order should be excluded from this measure, regardless if there are future misses on the order (company or customer).**   • **If the original due date on an order is missed due to company reasons, the order should be included in this measure, regardless if there are future misses on the order (company or customer).** ❑ Exclude PIC and LPIC orders.
Business Rules:

❑ **Orders (TBCC) completed on time (within one hour of committed order due time) for all orders where CLEC has requested coordination refers to the "Due" time of the TBCC designation.**
❑ **Requires an end time for a TBCC order.**
❑ **Estimated time to complete an order + 1 hour to be compared to completion time for retail parity.**
❑ **Most recent TBCC is the coordinated cut to be used in this measurement.**
❑ **Report period is a calendar month.**
❑ **The start time of requests received after the end of the business day will be the beginning of the next business day. Business day is defined as published hours of operation or the ILEC ordering center.**
  • **Business days (M-F, excluding PB/NB official holidays)**
  • **Business hours:**
  Resale/Retail 8 a.m.to 5 p.m.
  Facility based 8 a.m.to 5 p.m.
❑ **Excludes CLEC caused misses.**
• **If the original due date on an order is missed due to customer reasons, the order should be excluded from this measure, regardless if there are future misses on the order (company or customer).**
  • **If the original due date on an order is missed due to company reasons, the order should be included in this measure, regardless if there are future misses on the order (company or customer).**
❑ **Exclude PIC and LPIC orders.**
❑ **Applies to CLEC requested coordinated orders only (including Number Portability orders where coordination is requested by the CLEC).**

Disaggregation:

Completed coordinated service orders

- **Coor. Conversions (Res.)** **Coor. Conv. (Res)**
- **Coor. Conversions (Bus.)** **Coor. Conv. (Bus)**
- **Coor. Conversions (PNP-Port Out)** **Coor. Conv. (PNP-Port In/Back)**

Calculation:	**Report Structure:**
((Number of coordinated orders completed by due date and time) / (Count of coordinated orders completed in reporting period)) x 100	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**

Benchmark:

Parity

14. Measurement
Percentage of Time Interface is Available
Definition:
Measures percent of time OSS interface is available compared to scheduled availability.
Exclusions
None
Business Rules:
❑ **Report period is a calendar month.** ❑ **By interface type for all interfaces accessed by CLECs** • **pre-ordering** • **ordering** • **maintenance** ❑ *Outage hours are obtained from outage reports.* ❑ *Any change requests for extended availability during the reporting period are added to the scheduled hours.*
Disaggregation:
❑ **By interface type for all interfaces accessed by CLECs:** • **pre-ordering** • **ordering** • **maintenance**

Calculation:	Report Structure:
((Number of Scheduled System Available hours)-(Number of Unscheduled System Unavailable Hours)) / Scheduled System Available Hours) x 100	❑ **Needs to be reported by:** • **CLEC in the aggregate** • **ILEC**

Benchmark:
Parity for Pacific Bell/Nevada Bell for systems used by both ILEC and CLEC. **Benchmark 99.25% for OSS interfaces used exclusively by CLECs.**

15. Measurement
Average Response Time (to Pre-Order Queries)
Definition:
The response interval for each pre-ordering query is determined by computing the elapsed time from the ILEC receipt of the query from the CLEC, whether or not syntactically correct, to the time the ILEC returns the requested data to the CLEC.
Exclusions
None
Business Rules:
❑ **The start time of requests received after the end of the business day will be the beginning of the next business day. Business day is defined as published hours of operation or the ILEC ordering center.** • **Business days (M-F, excluding PB/NB official holidays)** • **Business hours:** **Resale/Retail 8 a.m.to 5 p.m.** **Facility based 8 a.m.to 5 p.m.** ❑ **System hours as published currently available 20 hours per day, 7 days per week.** ❑ **Elapsed time calculated in seconds.** ❑ **By the following requests:** • **Address verification/Dispatch required** • **Facility availability** • **Request for telephone number** • **Request for customer service record** • **Service availability** • **Service appointment scheduling (due date)** • **Rejected/Failed inquiries**
Disaggregation:
❑ **By interface type including fax.** ❑ **By query type.** ❑ **By the following request types:** • **Address verification/Dispatch required** • **Facility availability** • **Request for telephone number** • **Request for customer service record** • **Service availability** • **Service appointment scheduling (due date)** • **Rejected/Failed inquiries**

Calculation:	Report Structure:
OSS Interface Transaction Time **Sum ((Query Submission Date and Time to Legacy System Access) – (Query Submission Date and Time to OSS Interface) + (Query Response Date and Time to CLEC) – (Query Response Date and Time from Legacy System Access)) / (Number of Queries Submitted in Reporting Period)** Legacy System Transaction Time **Sum ((Query Response Date and Time from Legacy System) – (Query Submission Date and Time to Legacy System)) / (Number of Queries Submitted in Reporting Period)** **Manual: (CSRs only)** **(# of CSR's Returned within 4 Business Hours) / (# of CSRs Returned) x 100** **Nevada Bell only:** **Facility Availability** Manual: K1023s only **Sum (Returned Date and Time of K1023 Request) – (Receipt Date and Time of K1023 Request) / (Total Number of K1023 Requests Submitted in Reporting Period)**	Needs to be reported by: • **CLEC** • **CLECs in the aggregate** • **ILEC** • **ILEC Affiliates**

Benchmark:

- **Mechanized:**
  - **Interface transaction time: Benchmark to be determined October 1999.**
- **Legacy System time: Parity**
- **Manual:**
  - **CSRs Standard – 95% in 4 hours**
  - Facilities Availability Inquiries (K1023): Parity (Nevada Bell only)

16. Measurement
Percentage of Flow-Through Orders
Definition:
Measures the percentage of mechanized service requests processed on a flow through basis.
Exclusions
❑ **Exclude PIC and LPIC orders.**
Business Rules:
❑ **Report period is a calendar month.** ❑ From receipt to FOC is considered flow-through for this measure. ❑ **SGT (Service Group Type)/SOT (Service Order Type) aggregate data includes all service group/service order combinations received electronically.**
Disaggregation:
All orders received electronically: • **Reported for all electronically received orders by:** **Percent of orders that flow through** **Aggregate Service Group Type (SGT)/Service Order Type (SOT)** • Reported for all orders programmed to flow through by: Percent of programmed orders that flow through Service Group Type (SGT)/Service Order Type(SOT)

Calculation:	Report Structure:
((Number of valid mechanized orders that flow-through without manual intervention) / (Total valid mechanized service orders) x 100	❑ **Needs to be reported by:** • **CLEC** • **CLECs in the aggregate** • **ILEC Affiliates**

Benchmark:
Diagnostic only

17. Measurement
% Trunk Blockage – (New)
Definition:
Percent of calls blocked on outgoing traffic from Pacific Bell/Nevada Bell end office to CLEC end office and from Pacific Bell/Nevada Bell tandem to CLEC end office.
Exclusions
None
Business Rules:
Blocked calls and total calls are gathered during the official study week each month. This week is chosen from a pre-determined schedule. **No penalties or liquidated damages apply:** • **If CLEC's have trunks busied-out for maintenance at their end, or if they have other network problems which are under their control.** • **Pacific Bell/Nevada Bell is ready for turn-up on Due Date and CLEC is not ready or not available for turn-up of trunks.** • **If CLEC does not take action upon receipt of Trunk Group Service Request (TGSR) or ASR within 3 days when a Call Blocking situation is identified by Pacific Bell/Nevada Bell or in the timeframe specified in the ICA.** • **If CLEC fails to provide a forecast.** • **If CLEC's actual trunk usage, as shown by Pacific Bell/Nevada Bell from traffic usage studies, is more than 25% above CLEC's most recent forecast, which must have been provided within the last six-months unless a different timeframe is specified in an interconnection agreement.** **The exclusions do not apply if Pacific Bell/Nevada Bell fails to timely provide CLEC with traffic utilization data reasonably required for CLEC to develop its forecast or if Pacific Bell/Nevada Bell refuses to accept CLEC trunk orders (ASRs or TGSRs) that are within the CLEC's reasonable forecast regardless of what the current usage data is.**
Disaggregation:
• **The Pacific Bell/Nevada Bell end office to CLEC end office and Pacific Bell/Nevada Bell tandem to CLEC end office trunk blockage will be reported separately** • **By Market Region**

Calculation:	Report Structure:
(Count of blocked calls / total calls offered) x 100	Reported for CLEC, all CLECs and Pacific Bell/Nevada Bell.
Benchmark:	

Dedicated Trunk Groups not to exceed blocking standard of B.01.

18. Measurement	
Percent Blocking on Common Trunks	
Definition:	
Measures the percent of common and shared transport trunk groups exceeding 2% blockage.	
Exclusions	
None	
Business Rules:	
❑ **Report month is the calendar month.** ❑ **Threshold exception trunk detail.** ❑ **Needs to be reported by: Common/shared transport trunk group type** ❑ **Exception reporting only.** ❑ **Includes histogram distribution chart.**	
Disaggregation:	
Needs to be reported by trunk type.	
Calculation:	**Report Structure:**
(Number of common and shared transport trunk groups exceeding 2% blockage / Total number of common and shared transport trunk groups) x 100	❑ **Needs to be reported by: Common/shared transport trunk group**
Benchmark:	
2% of trunk groups blocking at no more than 2% blocking	

Collocation

19. Measurement
% Missed collocation due dates – (New)
Definition:
The percent of Pacific Bell/Nevada Bell caused missed due dates for Collocation projects.
Exclusions
None
Business Rules:
The clock starts when Pacific Bell/Nevada Bell receives, in compliance with the approved tariff, payment and return of proposed layout for space as specified in the application form from the CLEC and the clock stops when the collocation cage is complete and ready for CLEC occupancy. Due Date Extensions will be extended when mutually agreed to by Pacific Bell/Nevada Bell and the CLEC, or when a CLEC fails to complete work items for which they are responsible in the allotted time frame. The extended due date will be calculated by adding to the original due date the number of calendar days that the CLEC was late in performing said work items. Work items include but are not limited to: • CLEC return to Pacific Bell/Nevada Bell corrected and complete floor plan drawings • CLEC placement of required component(s) If the business rules and tariff are inconsistent, the terms of the tariff will apply.
Disaggregation:
Physical, virtual, and additions

Calculation:	Report Structure:
(Count of number of Pacific Bell/Nevada Bell caused missed due dates for physical collocation facilities / total number of physical collocation projects) x 100	Reported for individual CLEC and all CLECs

Benchmark:
95% within the due date. Damages and Assessments will be calculated based on the number of days late.

Billing

20. Measurement
Billing Timeliness
Definition:
This measure captures the elapsed number of days between the scheduled close of a Bill Cycle and the ILEC's successful transmission of the associated invoice to the CLEC.
Exclusions
❑ **Excludes:** • **paper bill** • **magnetic bill** • **CD ROM bill** • Custom Bill diskette bill
Business Rules:
Measures the time the bill is made available to CLEC
Disaggregation:
❑ Needs to be reported by: • **Resale** • **UNE (IntraLATA and InterLATA, etc.)** • **Facilities/Interconnection**

Calculation:	Report Structure:
Sum ((Invoice Transmission Availability Date) – (Date of Scheduled Bill Cycle Close)) / (Count of Invoices Transmitted in Reporting Period)	❑ **Needs to be reported by:** • **CLEC** • **CLECs in the aggregate** • **ILEC Affiliates**

Benchmark:
Standard – 99% within 10 days

Attachment A-3

CALCULATION OF PARITY AND BENCHMARK PERFORMANCE AND VOLUNTARY PAYMENTS

Z-Tests

- Modified Z-tests, as outlined below, will be used to determine parity when comparing an SBC/Ameritech incumbent LEC's and the CLEC's results for the difference between two means or two percentages, or the difference in two proportions.

- The modified Z-tests are applicable if the number of data points is greater than 30 for averages or means. For measurements with less than 30 data points SWBT may use the permutations test or Alternative-1 described under "Qualifications to use Z-Test heading below.

- Parity exists when the measured results in a single month (whether in the form of means, percents, or proportions) for the same measurement, at equivalent disaggregation, for both SWBT and the CLEC are used to calculate a Z-test statistic and the resulting value is no greater than the critical Z-value as discussed below.

- For parity measurement results that are expressed as averages or means:

  $Z = (DIFF) / \delta_{DIFF}$

  Where;
  $DIFF = M_{ILEC} - M_{CLEC}$
  M_{ILEC} = ILEC Average
  M_{CLEC} = CLEC Average
  $\delta_{DIFF} = SQRT [\delta^2_{ILEC} (1/ n_{CLEC} + 1/ n_{ILEC})]$
  δ^2_{ILEC} = Calculated variance for ILEC.
  n_{ILEC} = number of observations or samples used in ILEC measurement
  n_{CLEC} = number of observations or samples used in CLEC measurement

- For benchmark measurement results that are expressed as averages or means:

  $z = (DIFF) / 1$

  Where;
  $DIFF = Benchmark - M_{CLEC}$
  M_{CLEC} = CLEC Average

For parity measurement results that are expressed as percentages or proportions:

Step 1:

$$\rho = \frac{(n_{ILEC}P_{ILEC} + n_{CLEC}P_{CLEC})}{n_{ILEC} + n_{CLEC}}$$

Step 2:

$$\sigma_{PILEC\text{-}PCLEC} = \text{sqrt}[[\rho(1-\rho)]/n_{ILEC} + [\rho(1-\rho)]/n_{CLEC}]$$

Step 3:

$$Z = (P_{ILEC} - P_{CLEC})/\sigma_{PILEC\text{-}PCLEC}$$

Where: n = Number of Observations
P = Percentage or Proportion

- For benchmark measurement results that are expressed as percentages or proportions:

$$Z = (\text{benchmark} - P_{CLEC})/1$$

Where: n = Number of Observations
P_{clec} = Percentage or Proportion for CLEC

- For measurement results that are expressed as rates or a ratio:

$$z = (DIFF) / \delta_{DIFF}$$

Where;
$DIFF = R_{ILEC} - R_{CLEC}$
$R_{ILEC} = num_{ILEC}/denom_{ILEC}$
$R_{CLEC} = num_{CLEC}/denom_{CLEC}$
$\delta_{DIFF} = SQRT\ [R_{ILEC}\ (1/denom_{CLEC} + 1/\ denom_{ILEC})]$

Qualifications to use Z-Test:

- The proposed Z-tests are applicable to reported measurements that contain 30 or more data points.

- For measurements where the performance delivered to CLEC is compared to SWBT performance and for which the number of data points are 29 or less, The following Alternative may be used:

Alternative 1:

1. For measurements that are expressed as averages, performance delivered to a CLEC for each observation shall not exceed the ILEC averages plus the applicable critical Z-value. If the CLEC's performance is outside the ILEC average plus the critical Z-value and it is the second consecutive month, SWBT can utilize the Z-test as applicable for sample sizes 30 or greater or the permutation test to provide evidence of parity. If SWBT uses the Z-test for samples under 30, the CLEC can independently perform the permutation test to validate SWBT's results.

2. For measurements that are expressed as percentages, the percentage for CLEC shall not exceed ILEC percentage plus the applicable critical Z-value. If the CLEC's performance is outside the ILEC percentage plus the critical Z-value and it is the second consecutive month, SWBT can utilize the Z-test as applicable for sample sizes 30 or greater or the permutation test to provide evidence of parity. If SWBT uses the Z-test for samples under 30, the CLEC can independently perform the permutation test to validate SWBT's results.

Alternative 2:
Permutation analysis will be applied to calculate the z-statistic using the following logic:

1. Choose a sufficiently large number T.
2. Pool and mix the CLEC and ILEC data sets
3. Randomly subdivide the pooled data sets into two pools, one the same size as the original CLEC data set (n_{CLEC}) and one reflecting the remaining data points, (which is equal to the size of the original ILEC data set or n_{ILEC}).
4. Compute and store the Z-test score (Z_S) for this sample.
5. Repeat steps 3 and 4 for the remaining T-1 sample pairs to be analyzed. (If the number of possibilities is less than 1 million, include a programmatic check to prevent drawing the same pair of samples more than once).
6. Order the Z_S results computed and stored in step 4 from lowest to highest.
7. Compute the Z-test score for the original two data sets and find its rank in the ordering determined in step 6.
8. Repeat the steps 2-7 ten times and combine the results to determine P = (Summation of ranks in each of the 10 runs divided by 10T)
9. Using a cumulative standard normal distribution table, find the value Z_A such that the probability (or cumulative area under the standard normal curve) is equal to P calculated in step 8.
10. Compare Z_A with the desired critical value as determined from the critical Z table. If Z_A > the designated critical Z-value in the table, then the performance is non-compliant.

Critical Z-Test Value

- The following table will be used for determining the Critical Z-value for each measure. The table can be extended to include CLECs with fewer performance measures.

Critical Z - Statistic Table

Number of Performance Measures	Critical Z-value
10-19	1.79
20-29	1.73
30-39	1.68
40-49	1.81
50-59	1.75
60-69	1.7
70 –79	1.68
80 – 89	1.74
90 – 99	1.71
100 – 109	1.68
110 –119	1.7
120 – 139	1.72
140 – 159	1.68
160 – 179	1.69
180 – 199	1.7
200 – 249	1.7
250 – 299	1.7
300 – 399	1.7
400 – 499	1.7
500 – 599	1.72
600 – 699	1.72
700 – 799	1.73
800 – 899	1.75
900 – 999	1.77
1000 and above	Calculated for Type-1 Error Probability of 5%

Methods Of Calculating Per Occurrence Voluntary Payments

- **Measures for Which the Reporting Dimensions are Averages or Means.**

  Step 1: Calculate the average or the mean for the measure for the CLEC that would yield

the Critical Z-value for the third consecutive month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measures, substitute the benchmark value for the value calculated in the preceding sentences).

Step 2: Calculate the percentage difference between the actual average and the calculated average for the third consecutive month.

Step 3: Multiply the total number of data points by the percentage calculated in the previous step. Calculate the average for three months and multiply the result by $1500, $900, and $200 for Measures that are designated as High, Medium, and Low respectively; to determine the applicable assessment payable to the U.S. Treasury for that measure.

- **Measures for Which the Reporting Dimensions are Percentages.**

Step 1: Calculate the percentage for the measure for the CLEC that would yield the Critical Z-value for the third consecutive month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measures, substitute the benchmark value for the value calculated in the preceding sentences).

Step 2: Calculate the difference between the actual percentage for the CLEC and the calculated percentage for each of the three non-compliant months.

Step 3: Multiply the total number of data points by the percentage calculated in the previous step. Calculate the average for three months and multiply the result by $1500, $900, and $600 for measures that are designated High, Medium, and Low respectively: to determine the applicable assessment payable to the U.S. Treasury.

- **Measures for Which the Reporting Dimensions are Ratios or Proportions.**

Step 1: Calculate the ratio for the measure for the CLEC that would yield the Critical Z-value for the third consecutive month. Use the same denominator as the one used in calculating the Z-statistic for the measure. (For benchmark measures, substitute the benchmark value for the value calculated in the preceding sentences).

Step 2: Calculate the percentage difference between the actual ratio for the CLEC and the calculated ratio for each month of the non-compliant three-month period.

Step 3: Multiply the total number of service orders by the percentage calculated in the previous step for each month. Calculate the average for three months and multiply the result by $1500, $900, and $600 for measures that are designated as High, Medium, and Low respectively; to determine the applicable assessment for that measure.

Methods Of Calculating Per Measurement Voluntary Payments

- Per measurement voluntary payments are payable as detailed in the Voluntary Payments Table below if the actual Z-value exceeds the critical Z-value.

ATTACHMENT A-4

VOLUNTARY PAYMENTS TABLE FOR MEASURES

Per Occurrence

Measurement Group	
High	$1500
Medium	$900
Low	$600

Per Measure/Cap

Measurement Group	
High	$225,000
Medium	$90,000
Low	$60,000

ATTACHMENT A-5

MEASUREMENT LIST							
	FPP	Benchmark/ Parity	Measurement Name	CIPP Measurements			Pay
				Y1	Y2	Y3	
OSS	1	B	% FOC received in 'X' hours	M	M	M	obs/cap
Provisioning	2a	P	% SBC caused missed due dates - POTS	H	H	H	obs
	2b	P	% SWBT caused missed due dates - Design	H	H	H	obs
	2c	P	% SWBT caused missed due dates	H	H	H	obs
	2d	B	% Mechanized Completions Returned Within one Day Of Work Completion	L	L	L	obs
	3a	P	Percent Trouble Report Within 10 Days (I-10) of Installation – POTS	H	H	H	obs
	3b	P	Percent Installation Reports (Trouble Reports) Within 30 Days (I-30) of Installation - Design	H	H	H	obs
	3c	P	Percent Installation Reports (Trouble Reports) Within 30 Days (I-30) of Installation - UNE	H	H	H	obs
	4a	P	Mean Installation Interval - POTS	H	H	H	obs
	4b	P	Average Installation Interval - POTS	H	H	H	obs
	4c	B	% Installation completed in 'X' days - UNE	M	H	H	obs
	5a	P	Average Delay Days For SWBT Caused Missed Due Dates – POTS	L	L	L	obs
	5b	P	Average Delay Days For SWBT Caused Missed Due Dates – Design	L	L	L	obs
	5c	P	Average Delay Days For SWBT Caused Missed Due Dates – UNE	L	L	L	obs
	6	P	Average installation interval - DSL	H	H	H	obs
	7	P	Average response time for loop qualification information	M	M	M	obs
Maintenance	8a	P	Percent Missed Repair Commitments - POTS	H	H	H	obs
	8b	P	Percent Missed Repair Commitments - UNE	H	H	H	obs
	9a	P	Percent Repeat Reports - POTS	H	H	H	obs
	9b	P	Percent Repeat Reports - Design	H	H	H	obs
	9c	P	Percent Repeat Reports - UNE	H	H	H	obs
	10a	P	Receipt To Clear Duration - POTS	H	H	H	obs
	10b	P	Mean Time To Restore - Design	H	H	H	obs
	10c	P	Mean Time To Restore - UNE	H	H	H	obs
	11a	P	Trouble Report Rate - POTS	H	H	H	obs
	11b	P	Failure Frequency – Design	L	L	L	obs
	11c	P	Trouble Report Rate - UNE	H	H	H	obs
Interconnection	12	B	Average Trunk Restoration Interval for Service Affecting Trunk Groups	M	M	H	obs
Local Number Portability	13	B	% Pre-mature Disconnects (Coordinated Cutovers)	M	M	H	obs
OSS	14	B	OSS Interface Availability	M	M	H	meas
	15	B	Average Response Time for OSS preorder intefaces	M	M	M	obs/cap
	16	P	Order Process Percent Flow Through	H	H	H	obs/cap
	17	B	Percent Trunk Blockage	M	H	H	obs/cap
	18	B	Common Transport Trunk Blockage	M	M	H	meas
Collocation	19	B	% missed collocation due date	M	M	H	obs
Billing	20	B	Billing Timeliness	M	M	H	obs/cap

ATTACHMENT A-6

YEAR 1

CIPP CAPS ($M)

State	Annual	Monthly
Arkansas	$ 4.16	$ 0.35
California	$ 79.01	$ 6.58
Connecticut	$ 9.56	$ 0.80
Illinois	$ 30.41	$ 2.53
Indiana	$ 9.71	$ 0.81
Kansas	$ 5.89	$ 0.49
Michigan	$ 23.55	$ 1.96
Missouri	$ 10.87	$ 0.91
Nevada	$ 1.54	$ 0.13
Ohio	$ 17.81	$ 1.48
Oklahoma	$ 7.05	$ 0.59
Texas	$ 40.99	$ 3.41
Wisconsin	$ 9.45	$ 0.79
	$ 250.00	$20.83

ATTACHMENT A-6 (cont'd)

YEAR 2

CIPP CAPS ($M)

State	Annual	Monthly
Arkansas	$ 6.24	$ 0.52
California	$118.51	$ 9.88
Connecticut	$ 14.34	$ 1.20
Illinois	$ 45.62	$ 3.80
Indiana	$ 14.57	$ 1.21
Kansas	$ 8.83	$ 0.74
Michigan	$ 35.32	$ 2.94
Missouri	$ 16.31	$ 1.36
Nevada	$ 2.31	$ 0.19
Ohio	$ 26.72	$ 2.23
Oklahoma	$ 10.57	$ 0.88
Texas	$ 61.48	$ 5.12
Wisconsin	$ 14.18	$ 1.18
	$375.00	$31.25

ATTACHMENT A-6 (cont'd)

YEAR 3

CIPP CAPS ($M)

State	Annual	Monthly
Arkansas	$ 8.32	$ 0.69
California	$158.02	$13.17
Connecticut	$ 19.12	$ 1.59
Illinois	$ 60.82	$ 5.07
Indiana	$ 19.42	$ 1.62
Kansas	$ 11.78	$ 0.98
Michigan	$ 47.10	$ 3.93
Missouri	$ 21.75	$ 1.81
Nevada	$ 3.08	$ 0.26
Ohio	$ 35.62	$ 2.97
Oklahoma	$ 14.10	$ 1.18
Texas	$ 81.97	$ 6.83
Wisconsin	$ 18.90	$ 1.57
	$500.00	$41.67

ATTACHMENT B

MODEL COLLOCATION ATTESTATION REPORT

DRAFT

Independent Accountant's Report

SBC Communications Inc. Board of Directors
and
Federal Communications Commission

We have examined SBC Communications Inc.'s (the Company) assertion that the Company has policies and procedures (as described in the attachment) in place as of Month xx, 1999 regarding compliance with the Federal Communications Commission's (FCC) collocation requirements. The FCC's collocation requirements are contained in the FCC's March 31, 1999 First Report and Order and Further Notice of Proposed Rulemaking on Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147). The Company is responsible for the design, distribution and monitoring of such policies and procedures in place upon which the Company's assertion to the FCC is based.

Our examination was made in accordance with standards established by the American Institute of Certified Public Accountants and included both a determination of the existence and distribution of such policies and procedures upon which the Company's assertion is based, as well as such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

In our opinion, management's assertion that policies and procedures as described above are in place as of Month xx, 1999 is fairly stated in all material respects.

This report is intended solely for the information and use of the Board of Directors and management of the Company and the FCC and should not be used for any other purpose. Since this report will be filed in documents that are a part of the public record, its distribution is not limited.

_____
Signature of Independent Auditor

_____
Date

ATTACMENT C

PROMOTIONAL DISCOUNTS FOR RESIDENTIAL UNBUNDLED LOCAL LOOPS AND PROMOTIONAL DISCOUNTED PRICES FOR ANALOG LOOPS

Promotional Loop Discounts			
Zone	**Current Price**	**New Price**	**Discount (%)**
Arkansas			
Zone 1	$56.25	$23.50	58.22
Zone 2	$19.00	$14.80	22.11
Zone 3	$14.00	$11.60	17.14
			Average: 25.01
California			
Zone 1 (Statewide)	$12.92	$9.69	25.00
			Average: 25.00
Connecticut			
Zone A	$9.34	$7.25	22.38
Zone B	$14.77	$12.75	13.68
Zone C	$17.08	$12.75	25.35
Zone D	$19.71	$12.75	35.31
			Average: 25.03
Illinois			
Zone A	$2.59	$2.59	0.00
Zone B	$7.07	$5.63	20.37
Zone C	$11.40	$8.17	28.33
			Average: 25.03
Indiana			
Zone 1	$8.03	$6.23	22.42
Zone 2	$8.15	$6.23	23.56
Zone 3	$8.99	$6.23	30.70
			Average: 25.06
Kansas			
Zone 1	$70.30	$21.40	69.56
Zone 2	$26.55	$17.50	34.09
Zone 3	$19.65	$17.50	10.94
			Average: 25.00

Michigan			
Zone A	$9.43	$8.12	13.89
Zone B	$12.02	$8.85	26.37
Zone C	$14.86	$10.40	30.01
Total			**Average: 25.02**
Missouri			
Zone 1	$12.71	$11.00	13.45
Zone 2	$20.71	$15.00	27.57
Zone 3	$33.29	$13.25	60.20
Zone 4	$18.23	$9.20	49.53
			Average: 25.40
Nevada			
Zone 1	$13.10	$11.14	14.96
Zone 2	$18.25	$12.50	31.21
Zone 3	$34.75	$12.50	64.03
			Average: 25.00
Ohio			
Zone B	$5.93	$5.34	9.95
Zone C	$7.97	$5.34	33.00
Zone D	$9.52	$5.34	43.91
			Average: 35.94
Oklahoma			
Zone A	$49.30	$23.25	52.84
Zone B	$27.75	$19.90	28.29
Zone C	$20.70	$18.25	11.84
			Average: 25.01
Texas			
Zone 1	$18.98	$10.60	44.15
Zone 2	$13.65	$10.60	22.34
Zone 3	$12.14	$10.55	13.10
			Average: 25.01
Wisconsin			
Zone 1	$10.90	$8.17	25.05
Zone 2	$10.90	$8.17	25.05
Zone 3	$10.90	$8.17	25.05
			Average: 25.05

ATTACHMENT D

ALTERNATIVE DISPUTE MEDIATION

SBC/Ameritech shall implement in the SBC and Ameritech States a voluntary alternative dispute mediation process to resolve local service carrier-to-carrier disputes, including disputes related to interconnection agreements, as follows:

If resolution is not attained upon completion of the dispute resolution process contained in a state commission-approved interconnection agreement, or if the dispute is not subject to resolution under an interconnection agreement, SBC/Ameritech shall, at the option of the other party or parties to the dispute, participate in a mediation process as follows:

a. If a party voluntarily chooses to invoke these mediation procedures, it shall submit a written request for mediation to the appropriate state commission, with a copy to SBC/Ameritech and any other party or parties involved in the dispute. State commissions shall not be required to implement this process or to mediate disputes under the mediation provisions of this Attachment.

b. The written request shall include a statement as to whether the dispute affects service or is otherwise exceptionally time-sensitive. If the dispute affects service or is otherwise exceptionally time-sensitive, the written request shall set forth time requirements for resolution, and the time frames stated herein shall be shortened by agreement of the parties to accommodate the requested time requirements, which may not be less than 3 business days.

c. SBC/Ameritech shall attempt to resolve issues affecting multiple CLECs in the same State through consolidated mediations.

d. The parties to the dispute shall each have a person or persons of authority at the dispute resolution table such that a reasonable resolution could be agreed to at the table. In the event the representative(s) of a party come without the authority to agree to a particular item, that party shall commit to provide a response within no more than 2 business days.

e. Any information shared with another party or parties prior to a mediation session shall be faxed to the other party or parties to the dispute at least 24 hours prior to the next mediation session. A copy shall also be provided to the staff of the appropriate state commission.

f. SBC/Ameritech shall have one contact person for all contacts related to a given dispute.

g. SBC/Ameritech shall attend a face-to-face meeting with the disputing party or parties and the staff of the appropriate state commission within one week of the request for mediation. In the event it is not possible to resolve the issue in one session,

the parties to the dispute shall agree to a meeting schedule and have all relevant decision makers meet with the other party or parties during the scheduled times.

h. SBC/Ameritech agrees that service to end-user customers shall not be disrupted or otherwise affected by the pendency of a mediation proceeding.

i. SBC/Ameritech shall prohibit their regulatory, legal, and/or wholesale personnel from disclosing to their retail staff information regarding customers identified during the mediation process concerning the dispute being mediated. If necessary, SBC/Ameritech regulatory, legal, and/or wholesale personnel may contact the customer regarding service or billing-related issues after they have first notified the opposing party or parties in mediation to discuss the need for such contact and to give such party or parties the opportunity to participate in such contact.

j. SBC/Ameritech shall reduce each resolved issue to writing within 5 business days of the resolution. One of the other parties may also agree to reduce the agreement to writing. All subsequent responses/replies shall be due within 3 business days. If the parties have not reduced the resolved issue to an agreed-upon writing within 14 calendar days of the issue's resolution, they shall notify the staff of the appropriate state commission within 5 business days, and any party may request to resume the mediation. Written resolutions of the issues, once agreed upon by the parties, shall be binding upon the parties; a copy of each agreement shall be submitted to the staff of the appropriate state commission upon execution. If an agreement reached requires an amendment or addendum to a previously approved interconnection agreement, SBC/Ameritech shall file the amendment or addendum for approval by the appropriate state commission within 14 calendar days of reaching the written agreement.

k. Communications during the mediation process shall be confidential. SBC/Ameritech shall facilitate the confidentiality of the mediation process, including execution of a reasonable mediation agreement (provided that the other mediating party also agrees to do so as a condition to participating in the mediation process).

Once issues are resolved by the parties, should another telecommunications carrier in the same State request resolution of the same issue(s), with substantially similar factual circumstances and terms, and with conditions and other contract provisions that are not materially different, SBC/Ameritech shall make the arrangements arrived at through a prior mediation process available to that telecommunications carrier.

Should the appropriate state commission choose not to participate in the mediation process, the parties may mutually agree that a party (not a party to the dispute) may fill the role of the state commission and its staff in the mediation process.

ATTACHMENT E

POTENTIAL OUT-OF-TERRITORY MARKETS

Albany, NY
Albuquerque, NM
Atlanta, GA
Baltimore, MD
Baton Rouge, LA
Birmingham, AL
Boston, MA
Boulder, CO
Buffalo, NY
Cedar Rapids, IA
Charlotte, NC
Cincinnati, OH
Colorado Springs, CO
Denver, CO
Des Moines, IA
Fort Lauderdale, FL
Greensboro, NC
Greenville,SC
Harrisburg, PA
Honolulu, HI
Jacksonville, FL
Las Vegas, NV
Louisville, KY
Memphis, TN
Miami, FL
Middlesex, NJ
Minneapolis-St. Paul, MN
Nashville, TN
Nassau, NY
New Orleans, LA
New York , NY
Newark, NJ
Norfolk, VA
Orlando, FL
Passaic, NJ
Philadelphia, PA
Phoenix, AZ
Pittsburgh, PA
Portland, OR
Raleigh, NC

Richmond, VA
Rochester, NY
Salt Lake City, UT
Seattle, WA
Syracuse, NY
Tampa, FL
Tucson, AZ
Washington, DC
West Palm Beach, FL
Wilmington, DE